

# (19) World Intellectual Property Organization

International Bureau



## A TORRER BINGERREN IN CORRESS COMPARABLE BERN BERN I HER I IN DER HER BORNER BERN BERN BERN BERN BERN BERN BER

# (43) International Publication Date 3 June 2004 (03.06.2004)

**PCT** 

# (10) International Publication Number WO 2004/047330 A1

(51) International Patent Classification<sup>7</sup>: H04L 25/08, H03K 5/1252

H04B 3/02

(21) International Application Number:

PCT/IB2003/005164

(22) International Filing Date:

15 November 2003 (15.11.2003)

(25) Filing Language:

English

(26) Publication Language:

**English** 

(30) Priority Data:

60/427,411 18 November 2002 (18.11.2002) US 10/610,274 30 June 2003 (30.06.2003) US

(71) Applicant (for all designated States except US): KONIN-KLIJKE PHILIPS ELECTRONICS N.V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

(72) Inventors; and

(75) Inventors/Applicants (for US only): TOY, Edmond [US/US]; 1109 McKay Drive,, M/S-41SJ, San Jose, CA 95131 (US). DE LANGEN, Klaas-Jan [NL/US]; 1109 McKay Drive, M/S-41SJ, San Jose, CA 95131 (US).

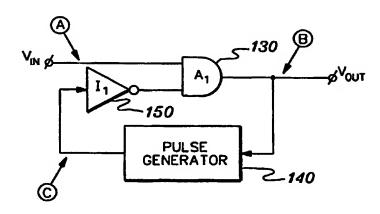
- (74) Common Representative: KONINKLIJKE PHILIPS ELECTRONICS N.V.; c/o LESTER, Shannon, 1109 McKay Drive M/S-41SJ, San Jose, CA 95131 (US).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

#### Declaration under Rule 4.17:

as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH,

[Continued on next page]

(54) Title: DIGITAL FILTER CIRCUIT AND METHOD FOR BLOCKING A TRANSMISSION LINE REFLECTION SIGNAL



(57) Abstract: A digital blocking filter (120) and filtering method are provided for a device (100) receiving signals from a transmission line. The transmission line, which may comprise part of a complex bus system, is incompletely terminated, thereby resulting in a reflection signal within the line with transmission of a signal. The digital blocking filter (120) includes a pulse generator (140) for generating a masking pulse timed and of sufficient duration to substantially block at the device (100) the reflection signal, and logic (130) for combining the masking pulse and a received signal from the transmission line, thereby substantially blocking the reflection signal. Circuitry for handling reflection signals of various duration, as well as for substantially blocking a reflection signal on either a falling edge or a rising edge of a state change in the received signal are provided.



CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK,

EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

#### Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

### INTERNATIONAL SEARCH REPORT

Interna **Application No** B 03/05164

A. CLASSIFICATION OF SUBJECT MATTER IPC 7 H04B3/02 H04L25/08 H03K5/1252

According to International Patent Classification (IPC) or to both national classification and IPC

#### B. FIELDS SEARCHED

 $\begin{array}{ll} \mbox{Minimum documentation searched} & \mbox{(classification system followed by classification symbols)} \\ \mbox{IPC 7} & \mbox{H04B} & \mbox{H04L} & \mbox{H03K} \end{array}$ 

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, WPI Data

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 664 612 A (ADVANCED MICRO DEVICES INC) 26 July 1995 (1995-07-26)  page 2, column 1, line 17 -column 2, line 39; figure 1 page 4, column 5, line 29 - line 39; figure 5	1,7, 9-11, 17-21
X .	page 5, column 7, line 12 - line 24  US 5 113 098 A (TEYMOURI SASSAN) 12 May 1992 (1992-05-12)  column 1, line 6 - line 55 column 2, line 50 -column 3, line 15; figure 2 column 3, line 55 -column 5, line 17; figure 4	1,7, 9-11, 17-21
	-/	

·	-/
X Further documents are listed in the continuation of box C.	χ Patent family members are listed in annex.
Special categories of cited documents:	ITI lalan dagaman haribi hariba harib
<ul> <li>'A' document defining the general state of the art which is not considered to be of particular relevance</li> <li>'E' earlier document but published on or after the international filling date</li> <li>'L' document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</li> <li>'O' document referring to an oral disclosure, use, exhibition or other means</li> <li>'P' document published prior to the international filing date but later than the priority date claimed</li> </ul>	<ul> <li>T' later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</li> <li>'X' document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</li> <li>'Y' document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.</li> <li>'&amp;' document member of the same patent family</li> </ul>
Date of the actual completion of the international search	Date of mailing of the international search report
13 February 2004	20/02/2004
Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Bossen, M

### INTERNATIONAL SEARCH REPORT

Internat	Application No			
PCBB	03/05164			

0.0	ALL A DOCUMENT OF THE PROPERTY	PG B 03/05164		
Category °	ation) DOCUMENTS CONSIDERED TO BE RELEVANT  Citation of document, with indication, where appropriate, of the relevant passages			
	or the relevant passages	Relevant to claim No.		
Х	US 5 940 448 A (KUO JAMES R) 17 August 1999 (1999-08-17) column 3, line 55 -column 4, line 19; figure 4	1,17,21		
•	•			

### INTERNATIONAL SEARCH REPORT

rmation on patent family members

Internation	Application No			
P	03/05164			

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
EP 0664612	Α	26-07-1995	US AT DE DE EP JP	5563532 A 172588 T 69414088 D1 69414088 T2 0664612 A1 7303034 A	08-10-1996 15-11-1998 26-11-1998 24-06-1999 26-07-1995 14-11-1995
US 5113098	Α	12-05-1992	NONE		
US 5940448	Α	17-08-1999	NONE	-	